

Message Text

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ACTION OES-07

INFO OCT-01 EUR-12 ISO-00 DOE-15 ACDA-12 CIAE-00
DODE-00 PM-05 INR-10 L-03 NSAE-00 NSC-05 SOE-02
SS-15 OC-06 CCO-00 /093 W
-----105556 290437Z /15

R 281650Z APR 78
FM AMEMBASSY MOSCOW
TO SECSTATE WASHDC 1163
NASA WASHDC

UNCLAS SECTION 01 OF 02 MOSCOW 09331

NASA FOR TERRELL

E.O. 11652: N/A
TAGS: TSPA, UR, US
SUBJECT: US-USSR SPACE COOPERATION: SPACE METEOROLOGY
(04.02)

REF: STATE 62695

1. ON APRIL 27 EMBASSY RECEIVED LETTER FROM ALEKSANDROV
FOR JOHNSON WHICH REPLIES TO REFTEL. INFORMAL EMBASSY
TRANSLATION FOLLOWS PARA 2 BELOW. ORIGINAL POUCHED TO
NASA FOR TERRELL. REGISTRY NO. 1911718.

2. DEAR DR. JOHNSON:
I AM SENDING YOU ADDITIONAL INFORMATION ON THE METHOD OF
COLLECTING EXPERIMENTAL DATA ON MICROWAVE MEASUREMENTS.
INFORMATION ON THE DATA COLLECTING SYSTEM (NUMBERS OF THE
POINTS WERE TAKEN FROM YOUR TELEGRAM)

5. THE INCLINATION ANGLE OF THE AIRCRAFT IS EQUAL TO
ZERO, IF THERE IS NO MENTION OTHERWISE IN THE NOTES TO
THE TABLES OF RADIOINTENSITY TEMPERATURES.

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7. THE AIRSPEED OF THE AIRCRAFT IS GIVEN IN THE TABLES.
8. WIND VELOCITY AND DIRECTION ARE NOT DEFINED DIRECTLY
BUT CAN BE DETERMINED BY THE BARIC FIELD GRADIENT FROM
SURFACE SYNOPTIC MAPS WHICH WERE SENT TO YOU AS WELL AS
FROM THE DATA OBTAINED BY MEASUREMENTS ABOARD THE SHIP
(SEE THE TABLE OF METEOROLOGICAL DATA).
9. THE TEMPERATURE OF THE OCEAN SURFACE WAS MEASURED BY

IK-RADIOMETER IN THOSE CASES WHEN IT COULD BE MEASURED (IN THE ABSENCE OF CLOUDS UNDER THE PLANE) AND IS GIVEN IN A SEPARATE TABLE OF THE REPORT (III-1-2). IN ADDITION, THE REPORT PROVIDES CHARACTERISTICS OF THE IK-RADIOMETER USED ABOARD THE RESEARCH SHIP "ACADEMIK KOROLYEV".

SUBSIDIARY INFORMATION ON THE DATA COLLECTING SYSTEM

1. THE SPEED OF PRIMARY DATA REGISTRATION IS EQUAL TO ONE VALUE OF RADIOINTENSITY TEMPERATURE PER SECOND.

2. THE TIME CONSTANT FOR ALL INSTRUMENTS IS ONE SECOND.

4. CALIBRATION OF INSTRUMENTS IS CARRIED OUT WITH THE HELP OF AN INTERNAL NOISE GENERATOR AT FIVE-MINUTE INTERVALS.

5. ACTUAL SENSITIVITY OF CHANNELS WHEN ONE SECOND.

NUMBER OF A CHANNEL 1 2 3 4 5 ADDITIONAL

WAVE-LENGTH IN CENTIMETRES 3.2 8.5 1.6 1.35 0.8 2.4

SENSITIVITY DEGREES K 1.5 2.0 1.5 1.5 1.5 0.5

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PRIMARY ABSOLUTE CALIBRATION IS CARRIED OUT BY MEASURING RADIOINTENSITY TEMPERATURES OF THE CALM SEA IN THE ABSENCE OF CLOUDS, WITH SIMULTANEOUS AIRCRAFT MEASUREMENTS OF VERTICAL TEMPERATURE AND HUMIDITY PROFILES AS WELL AS SALINITY AND TEMPERATURE OF THE OCEAN SURFACE (FROM THE SHIP DATA). GRADUATION VALUES OF RADIOINTENSITY TEMPERATURE ARE DETERMINED BY CALCULATION. INSTRUMENTATION RELIABILITY WAS CHECKED BY LABORATORY METHODS AND THE 5-MINUTES INTERVAL OF INTERNAL CALIBRATION WAS TAKEN FROM THESE DATA.

6. THE INTERNAL CALIBRATION OF THE INSTRUMENT IS CARRIED OUT WITH THE HELP OF THE NOISE GENERATOR THROUGH A DIRECTED COUPLER IN THE MEASURING LOOP.

8. TEMPERATURE VARIATIONS OF THE LOOP COMPONENTS ARE TAKEN INTO ACCOUNT DURING ABSOLUTE CALIBRATION WHICH IS CARRIED OUT AT DIFFERENT HEIGHTS AND VARIOUS TEMPERATURES OF THE ANTENNA AND THE LOOP. DURING THE PROCESS OF MEASURING, TEMPERATURES ARE REGISTERED.

ADDITIONAL INFORMATION

1. THE FIRST, SECOND AND THIRD COLUMNS SHOW CORRESPONDING-
LY THE LEVEL OF "COLD" CALIBRATION, THE LEVEL OF "HOT"
CALIBRATION AND THE SIGNAL LEVEL AFTER CALIBRATION. ALL
THESE VALUES ARE GIVEN IN VOLTS AND ARE PRINTED FOR
VERIFICATION. RADIOINTENSITY TEMPERATURES AVERAGED BY
TEN-SECONDS INTERVALS ARE GIVEN BEGINNING FROM THE FOURTH
COLUMN.

2. IF A VALUE OF RADIOINTENSITY TEMPERATURE LACKS A LAST
(THIRD) FIGURE, THAT MEANS THAT IT IS EQUAL TO ZERO. THIS
FORM OF RECORDING IS CONNECTED WITH THE SELECTED PRINT-OUT
PROCEDURE.

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INFO OCT-01 EUR-12 ISO-00 DOE-15 ACDA-12 CIAE-00
DODE-00 PM-05 INR-10 L-03 NSAE-00 NSC-05 SOE-02
SS-15 OC-06 CCO-00 /093 W
-----105357 290438Z /15

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3. THE LAST LINE OF EACH DATA BLOCK REPRESENTS SERVICE
INFORMATION. IN PARTICULAR TEMPERATURES OF RADIOMETERS
ARE GIVEN HERE, THE SIXTH, EIGHTH, NINTH AND TENTH GROUPS
OF FIGURES.

SINCERELY, L.A. ALEKSANDROV. TOON

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Message Attributes

Automatic Decaptioning: X
Capture Date: 01 jan 1994
Channel Indicators: n/a
Current Classification: UNCLASSIFIED
Concepts: METEOROLOGY, INTERGOVERNMENTAL COOPERATION, SPACE PROGRAMS
Control Number: n/a
Copy: SINGLE
Draft Date: 28 apr 1978
Decaption Date: 01 jan 1960
Decaption Note:
Disposition Action: n/a
Disposition Approved on Date:
Disposition Case Number: n/a
Disposition Comment:
Disposition Date: 01 jan 1960
Disposition Event:
Disposition History: n/a
Disposition Reason:
Disposition Remarks:
Document Number: 1978MOSCOW09331
Document Source: CORE
Document Unique ID: 00
Drafter: n/a
Enclosure: n/a
Executive Order: N/A
Errors: N/A
Expiration:
Film Number: D780183-0501
Format: TEL
From: MOSCOW
Handling Restrictions: n/a
Image Path:
ISecure: 1
Legacy Key: link1978/newtext/t1978045/aaaaadqd.tel
Line Count: 160
Litigation Code IDs:
Litigation Codes:
Litigation History:
Locator: TEXT ON-LINE, ON MICROFILM
Message ID: 125b88ac-c288-dd11-92da-001cc4696bcc
Office: ACTION OES
Original Classification: UNCLASSIFIED
Original Handling Restrictions: n/a
Original Previous Classification: n/a
Original Previous Handling Restrictions: n/a
Page Count: 3
Previous Channel Indicators: n/a
Previous Classification: n/a
Previous Handling Restrictions: n/a
Reference: 78 STATE 62695
Retention: 0
Review Action: RELEASED, APPROVED
Review Content Flags:
Review Date: 29 mar 2005
Review Event:
Review Exemptions: n/a
Review Media Identifier:
Review Release Date: N/A
Review Release Event: n/a
Review Transfer Date:
Review Withdrawn Fields: n/a
SAS ID: 2946666
Secure: OPEN
Status: NATIVE
Subject: US-USSR SPACE COOPERATION: SPACE METEOROLOGY (04.02)
TAGS: TSPA, UR, US
To: STATE NASA
Type: TE
vdkgvwkey: odb://SAS/SAS.dbo.SAS_Docs/125b88ac-c288-dd11-92da-001cc4696bcc
Review Markings:
Sheryl P. Walter
Declassified/Released
US Department of State
EO Systematic Review
20 Mar 2014
Markings: Sheryl P. Walter Declassified/Released US Department of State EO Systematic Review 20 Mar 2014